

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: Q77492

Takashi OHIRA

Appln. No.: 10/662,330

Group Art Unit: 1762

Confirmation No.: 9180

Examiner: Elena TSOY

Filed: September 16, 2003

For: GOLF BALL PREPARATION METHOD AND GOLF BALL

**REPLY BRIEF PURSUANT TO 37 C.F.R. § 41.41**

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.41, Appellant respectfully submits this Reply Brief in response to the Examiner's Answer dated September 20, 2007. Entry of this Reply Brief is respectfully requested.

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**STATUS OF CLAIMS**

Claims 1-6 are pending in the application.

Claims 1 and 3-6 are rejected.

Claim 2 is withdrawn from consideration for being drawn to non-elected subject matter.

Claims 1 and 3-6 are being appealed.

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

(A) Claims 1 and 3-6 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,165,564 (“Crast”) in view of U.S. Patent Application Publication No. 2002/0016226 (“Jin”), further in view of U.S. Patent No. 6,319,983 (“Lokai”), and further in view of U.S. Patent No. 5,300,325 (“Nealon”); and

(B) Claim 4 has been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Crast in view of Jin, further in view of Lokai, and further in view of Nealon, and further in view of U.S. Patent No. 5,089,376 (“Setthachayanon”).

**ARGUMENT**

In response to the Examiner's Answer, Appellant reiterates the differences between the present invention and the cited references.

**I. Claims 1 and 3-6 are patentable over Crast in view of Jin, further in view of Lokai, and further in view of Nealon**

Claims 1 and 3-6 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Crast in view of Jin, further in view of Lokai, and further in view of Nealon.

**A. The Examiner's Answer**

The Examiner traverses Appellant's argument that none of the applied references teaches or suggests to not irradiate the primer composition layer with UV radiation prior to having the UV-curable paint applied thereon. The Examiner asserts that first of all, Nealon is not silent with respect to the opposite of a claim recitation since Nealon teaches **heat-treating** an aqueous primer for 10 minutes at 150 °F (66 °C) before co-curing it with a top coat, as in Appellants invention. Secondly, in contrast to Applicants statement, it is proper for the Examiner to conclude that silence about UV irradiation of the primer in Nealon should be interpreted as claimed non-irradiating the primer with UV. There is no MPEP guidance or case law against such an interpretation.

The Examiner traverses Appellant's argument that Nealon teaches away from not irradiating the primer composition layer with UV radiation prior to having the UV-curable paint applied thereon. The Examiner asserts that Appellant's own specification describes heat-treating an aqueous primer (which is substantially identical to that of Jin in view of Lokai) at a temperature up to 70 °C for usually at least 15 minutes, preferably at least 25 minutes and

usually up to 180 minutes prior to applying a UV-curable paint thereto (See specification, page 6, lines 14-21; and Table 2). Thus, in contrast to Applicant's argument, Nealon's teaching at column 4, lines 45-54, to cure the primer for 10 minutes in a curing oven before applying the top coat amounts does not teach away from claimed invention, and/or from claim recitation of not irradiating the primer composition layer with UV radiation prior to having the UV-curable paint applied thereon.

The Examiner traverses Appellant's argument that Nealon does not at all mention UV radiation. The Examiner asserts that Crast cures top-coat and a primer by UV radiation. Nealon teaches that an aqueous primer comprising acrylate-polyurethane resin (i.e., a resin having UV curable acrylate groups as in a primer of Jin and Lokai) would improve adhesion of polyurethane top layer to ionomer golf ball cover if the polyurethane top layer were applied to non-crosslinked, partially cured primer (by heat), and then co-cured with the top coat layer. Therefore, it would have been obvious to one of ordinary skill in the art at to have applied a top coat layer in Crast to non-crosslinked, partially cured primer (by heat) and then irradiated with UV radiation.

**B. Appellant's Response**

The disclosure of Nealon is that the primer and top coat are co-cured and crosslinked by heat, which is substantially different from UV cure. Nealon teaches away from the feature of the present invention.

The adhesion property of Nealon is weak because the primer composition in Nealon has been almost cured progressively before applying top coat. In contrast, the primer composition in

the invention is not almost cured progressively by heat. In the present invention, both of the primer composition and the UV-curable paint are cured by UV radiation at the same time, thereby to obtain the enhanced bonding strength between the primer composition layer and the UV-curable paint layer. The bonding strength of the present invention would be stronger than that of Nealon.

The Examiner asserts that Appellant's own specification describes heat-treating an aqueous primer (which is substantially identical to that of Jin in view of Lokai) at a temperature up to 70 °C for usually at least 15 minutes, preferably at least 25 minutes and usually up to 180 minutes prior to applying a UV-curable paint thereto (See specification, page 6, lines 14-21; and Table 2). Thus, the Examiner's reasons, in contrast to Applicant's argument, Nealon's teaching at column 4, lines 45-54, to cure the primer for 10 minutes in a curing oven before applying the top coat amounts does not teach away from claimed invention, and/or from claim recitation of not irradiating the primer composition layer with UV radiation prior to having the UV-curable paint applied thereon.

Appellant respectfully disagrees. Nealon's teaching at column 4, lines 45-54 does not correspond to the disclosure at page 6, lines 14-21 of the present specification, because the primer composition disclosed in Nealon is different from the primer composition employed in the present invention. Nealon does not teach the primer composition comprising the claimed resin having UV-curable functional groups such as (meth)acrylic groups, cinnamoyl groups and azido groups. Due to the content of the claimed primer composition, the claimed primer composition is not almost cured by heat, which is not taught by Nealon.

Therefore, Nealon's teaching teaches away from the claimed invention, and from claim recitation of not irradiating the primer composition layer with UV radiation prior to having the UV-curable paint applied thereon.

Crast (the primary reference) merely discloses a method for preparing a golf ball having polyurethane top coating formed from UV-curable coating. Crast fails to teach that a primer composition comprises an aqueous resin having UV-curable functional group in a molecule and a crosslinker. Further, Crast fails to disclose and teach that the both of the primer composition and the UV-curable paint are cured by UV radiation at the same time.

Combining Crast and Nealon is not appropriate because top coating of Crast is UV-curable, which is different from top coating of Nealon which is curable by heat.

For the reasons discussed in the Appeal Brief under 37 C.F.R. § 41.37 filed July 13, 2007 and for the reasons discussed above, Appellant submits that Claims 1 and 3-6 would not have been obvious over the cited references. Therefore, the rejection of Claims 1 and 3-6 under 35 U.S.C. § 103(a) based on the cited references should be reversed.

**II. Claim 4 is patentable over Crast in view of Jin, further in view of Lokai, and further in view of Nealon, and further in view of Setthachayanon**

Claim 4 has been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Crast in view of Jin, further in view of Lokai, and further in view of Nealon, and further in view of U.S. Patent No. 5

**A. The Examiner's Answer**

The Examiner asserts that Appellant's argument is unconvincing because claim 1 is obvious over the cited prior art.

**B. Appellant's Response**

For the reasons discussed in the Appeal Brief under 37 C.F.R. § 41.37 filed July 13, 2007 and for the reasons discussed above, Appellant submits that Claim 4 would not have been obvious over the cited references. Therefore, the rejection of Claim 4 under 35 U.S.C. § 103(a) based on the cited references should be reversed.



**CONCLUSION**

For the above reasons as well as the reasons set forth in Appeal Brief, Appellant respectfully requests that the Board reverse the Examiner's rejections of all claims on Appeal.

An early and favorable decision on the merits of this Appeal is respectfully requested.

Respectfully submitted,



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**23373**

CUSTOMER NUMBER

Date: November 20, 2007